

What is claimed is:

1. A lithium secondary battery comprising:

an electrode unit produced by winding or laminating a positive electrode and a negative electrode via a separator,

5 and

a non-aqueous electrolytic solution containing a

lithium compound as an electrolyte,

wherein a cumulative concentration of water ( $H_2O$ ) released from both of said positive electrode and said negative electrode in relation to the weight of said electrode unit, exclusive of current collectors, is suppressed to 5,000 ppm or lower in case of heating both electrodes at 25 to 200°C and/or to 1,500 ppm or lower in case of heating said electrodes at 200 to 300°C.

10 15 2. The lithium secondary battery according to Claim 1, wherein said lithium compound is lithium hexafluorophosphate.

20 3. The lithium secondary battery according to Claim 1, wherein a lithium manganese oxide containing lithium and manganese as main components and having a cubic system spinel structure is used as the positive electrode active substance.

25 4. The lithium secondary battery according to Claim 2, wherein a lithium manganese oxide containing lithium and manganese as main components and having a cubic system spinel structure is used as the positive electrode active substance.

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5. The lithium secondary battery according to Claim 1,  
wherein a highly graphitized carbon fiber is used as the  
negative electrode active substance.
6. The lithium secondary battery according to Claim 2,  
5 wherein a highly graphitized carbon fiber is used as the  
negative electrode active substance.
7. The lithium secondary battery according to Claim 3,  
wherein a highly graphitized carbon fiber is used as the  
negative electrode active substance.
- 10 8. The lithium secondary battery according to Claim 1,  
which has a battery capacity of 2 Ah or more.
9. The lithium secondary battery according to Claim 2,  
which has a battery capacity of 2 Ah or more.
- 15 10. The lithium secondary battery according to Claim 3,  
which has a battery capacity of 2 Ah or more.
11. The lithium secondary battery according to Claim 4,  
which has a battery capacity of 2 Ah or more.
12. The lithium secondary battery according to Claim 1,  
which is used in an electric automobile or a hybrid electric  
20 automobile.
13. The lithium secondary battery according to Claim 2,  
which is used in an electric automobile or a hybrid electric  
automobile.
14. The lithium secondary battery according to Claim 3,  
25 which is used in an electric automobile or a hybrid electric  
automobile.

15. The lithium secondary battery according to Claim 4,  
which is used in an electric automobile or a hybrid electric  
automobile.

16. The lithium secondary battery according to Claim 5,  
5 which is used in an electric automobile or a hybrid electric  
automobile.

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